COGNITIVE LEARNING IN THE PRESENCE OF IMMEDIACY: AN EXPLORATORY STUDY OF THE RELATIONSHIP BETWEEN PERCEIVED AND ACTUAL COGNITIVE LEARNING AND NONVERBAL IMMEDIACY

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Cognitive Learning In the Presence of Immediacy: An Exploratory Study of the Relationship between Perceived and Actual Cognitive Learning and Nonverbal Immediacy

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Abstract

The immediacy construct continues to be a hot topic in Instructional Communication. It is shown repeatedly to positively affect student perceptions of the classroom. Although student perceptions of the classroom are important for a more conducive learning environment, increasing student learning is also important. The effects of teacher immediacy on cognitive learning are still unclear due largely in part to the inability to consistently and accurately assess actual learning. Many studies relate cognitive learning to immediacy, but the primary use of student self-reports to measure cognitive learning limits the interpretation to student perceptions of their learning rather than necessarily actual learning. The purpose of this study is to examine the relationship between perceived cognitive learning and actual cognitive learning. Although the data of this study supports previous findings that perceived student learning

relates to teacher nonverbal immediacy, this study found no relationship between perceived and actual cognitive learning.

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Chapter One: Introduction

Instructional communication research focuses on improving the process of communication in teaching. Effective teaching and effective communication skills go hand in hand. Nussbaum (1992) asserts that "scholars are deeply divided as to what constitutes 'effective' teacher behavior" (p. 167). Andersen (1979) defines effective teachers as producing "positive outcomes in all three domains of learning: positive student affect, behavioral commitment to the course content, and student cognitive learning" (p. 543). Bloom's (1956) conceptualization of these three domains of learning is used in almost all instructional communication literature. Affective learning is characterized as the student's positive or negative attitude toward the teacher or subject. Behavioral learning is described as the development of psychomotor skills or observable behavior change because of learning. Lastly, cognitive

learning refers to retention and comprehension of knowledge.

Instructional communication research applies concepts drawn from various communication theories to classroom instruction in order to enhance affective, behavioral, and cognitive outcomes. One construct which has been shown to be central to effective teaching is immediacy. Examination of immediacy in the classroom originates from Mehrabian's definition of the construct as the degree of perceived physical and/or psychological closeness between people (1967). Research on immediacy relates the use of nonverbal "immediate" behaviors of the teacher to motivation and learning by the students. Nonverbal immediacy research studies the connection between teachers' use of receptive communication behaviors such as smiling, listening, eye contact, etc., and student learning. Highly immediate teachers are perceived more positively by their students concerning the learning experience.

The immediacy construct continues to be a hot topic in Instructional Communication and rightly so, as it is shown repeatedly to positively affect student perceptions of the classroom. Although students' perception of the classroom is important for promoting a conducive learning environment, increasing student learning is also important. The effects of teacher immediacy on cognitive learning are still unclear due largely to the difficulty of measuring learning consistently and accurately. Many studies relate cognitive learning to immediacy, but the primary use of student self-reports to measure cognitive learning limits the interpretation to student perceptions and not necessarily to actual learning. Richmond, Gorham, and McCroskey (1987) argue that:

> In the absence of a solid, objective measure of cognitive learning, we turned to a subjective measure . . . Although a student may generate positive or negative affect for a

> course for many reasons, one very important basis for a student's affective response is whether or not the student perceives he or she 'got anything out of the course.' . . . We believe it is reasonable to expect them to estimate with considerable accuracy the amount they learn in a given class. (p. 581)

This premise is central to my current study. I am proposing a comparison of students' perceived cognitive learning and actual cognitive learning (comprehension and retention of knowledge) in relation to immediacy. Measuring cognitive learning is difficult but not impossible in light of recent research on assessment. How do we assess student cognitive learning so that we can examine its relationship with teacher immediacy? Can we give more credence to teacher immediacy than simply a "feel good" part of the classroom for both teachers and students?

In this study I want to accomplish three things: 1) determine the relationship between perceived and actual cognitive learning; 2) compare both perceived and actual student learning to teacher nonverbal immediacy in order to determine if in fact there is a similar relationship; and 3) suggest ways to begin measuring cognitive learning consistently and accurately in order to contribute research in which methods for effective teaching can be determined.

Review of Immediacy Literature

Albert Mehrabian and colleagues originally developed the concept of immediacy between 1965 and 1971. In 1978, Janis F. Andersen did the first study to investigate the relationship between immediacy and teaching effectiveness. Her findings suggested that immediacy could well be a powerful variable in predicting student affect (the student's positive or negative attitude toward the teacher or subject) and learning. Noting the limitations of a first-time study, Andersen encouraged replication across a variety of environments. She warned that the test of cognitive

learning may have been inadequate and needed further testing before suggesting any findings. Andersen further indicated that the scales measuring immediacy in her study needed additional development.

Andersen continued to bring the issue of immediacy behaviors and teacher effectiveness to the forefront. In 1979 Andersen reported on two studies conducted to refine instruments for measuring nonverbal immediacy (BII--behavioral indicants of immediacy scale, and GI--generalized immediacy scale). Andersen's examination suggested that the GI scale was reliable and the BII scale required modification. In 1981 Andersen, Norton, and Nussbaum also conducted three studies using the constructs Teacher Immediacy (referring to nonverbal immediacy behaviors), Solidarity (Wheeless, 1978, p. 145, defined as "the degree of psychological, social and perhaps even physical closeness between people"), and Communicator Style (Norton, 1977, p. 527, defined as "the way one verbally and paraverbally interacts to signal how literal meaning should be taken, interpreted,

filtered, or understood"). The studies examined relations between perceptions of teacher communication behavior and student learning. The findings supported previous studies suggesting "that perceptions of teacher communication behaviors make a difference in student perceptions of effective teaching and student affect toward the instructor and the course" (Andersen, Norton, & Nussbaum, 1981, p. 390). The relationship of communication behaviors to cognitive learning was still unclear.

Literature on immediacy behaviors and effective teaching soon began to emerge in conference papers and academic articles by other authors. In 1985, Kearney, Plax, and Wendt-Wasco investigated teacher immediacy as a potential indicator for student affective learning in two different types of course content. P-Type courses focus on people-oriented content and T-Type courses focus on product or task-oriented content. The findings confirmed previous nonverbal teacher immediacy research

regarding both P-Type and T-Type courses. P-Type courses are particularly sensitive to teacher immediacy. Kearney et al's study also raised an important issue. Previous studies had only used communication classes by asking students to rate instructors in the class where the survey was being and that narrowness of focus seemed to limit the generalizability of the findings. Later studies reflected the recommendations of Kearney et al. by asking participants to fill out research measurements describing the instructor either in the class before or after their current communication class. This allowed the data to reflect various types of classes and instructors.

In 1990, Christophel found that teacher immediacy behaviors must first modify students' state motivation (an attitude toward a specific class as opposed to a predisposition toward learning) before learning can take place. Christophel asserted that there was a connection between immediacy and learning, although learning was

again measured using student self-reports. In that same year Sanders and Wiseman conducted a study relating teacher immediacy behaviors to enhanced cognitive, affective, and behavioral learning in the multicultural classroom. Unlike Christophel, Sanders and Wiseman indicated that due to the use of self-reports their findings only represented perceived cognitive learning.

In 1992, Nussbaum, in a review of literature on education and communication from 1983 to 1990, recommended that communication researchers incorporate a more transactional notion in Instructional Communication research, as opposed to merely looking at teacher behaviors. Also in that year, Graham, West, and Schaller related teacher immediacy to increased job satisfaction. The results suggested that teachers who displayed these qualities were also teachers more often involved with their students, which in turn increased teacher satisfaction. Graham, West, and Schaller began the inclusion of both verbal and nonverbal behaviors

regarding immediacy in their study, and future research would follow suit.

In 1993, Jo Sprague charged the communication field with marginalizing pedagogical work. She encouraged all communication scholars to engage in discussion about "ethical and practical implications of curriculum and of teaching methods" (1993, p. 119). It would seem communication scholars were listening when in 1994 and particularly 1995, the number of journal articles regarding immediacy and other Instructional Communication constructs increased dramatically.

In 1994 Frymier found data further supporting the relationship between motivation and immediacy, but did not support a direct effect on student learning although learning was again measured by student self-reports. Frymier and Shulman (1995) further suggested that making content relevant to students' personal and career goals, in addition to immediacy, increases students' motivation in a class.

In 1995, the issues surrounding measurements used in immediacy studies were again questioned. Robinson and Richmond (1995) examined for the first time the validity of the verbal immediacy scale. They cautioned against referring to nonverbal and verbal immediacy as being the same construct. The verbal immediacy measure was intended to represent verbally effective behaviors of teachers, while the nonverbal immediacy measure was not specifically constructed to focus on effectiveness of behaviors in an instructional environment. They argued that the scale was created in a brainstorming exercise where forty-seven advanced undergraduates described the behaviors of the best teachers they had. Robinson and Richmond developed their argument on the basis that the items on the verbal immediacy scale describe effective teacher behaviors and not necessarily immediate behaviors. The findings pointed to a potential weakness but have not been examined further.

Researchers continue to use the verbal immediacy scale without mentioning the potential shortcomings.

Frymier and Thompson (1995), examined the validity of using student self-reports to measure teacher immediacy by comparing student reports of immediacy with students' social style, self-esteem, communication apprehension, trait motivation, sex, class rank, and major. Studies before Frymier and Thompson assumed that students could objectively report behaviors they observed their instructors displaying and their results supported the use of such methodology. The authors posited that self-reports of teacher immediacy were accurate because students were reporting on frequency of behaviors rather than evaluating the appropriateness or effectiveness of those behaviors. Frymier and Thompson encouraged further research on the validity of the verbal and nonverbal immediacy scales.

Christophel and Gorham (1995) explored the changes in student perceptions of teacher immediacy and changes

in student motivation or demotivation across the course of a semester in college classes. Previous researchers have administered the immediacy instruments at different times during the semester, varying from the start of the term to the middle or end of the term. Christophel and Gorham found that teacher use of verbal immediacy behaviors (although they used the instrument now in question) did not differ significantly between weeks 3-4 and weeks 12-13. However, teachers' use of nonverbal immediacy behaviors significantly increased over the same time. The conclusion was that verbal immediacy relationships were quickly established while nonverbal immediacy relationships seemed to take longer to develop. Thus, the time at which the measurements are given during a term is an important factor regarding generalizability of immediacy studies.

McCroskey, Richmond, Sallinen, Fayer, and Barraclough (1995) examined the impact of nonverbal immediacy in different cultures. Using participants

from Australia, Finland, Puerto Rico, and the U.S., McCroskey et al. found that although teacher immediacy may be slightly more important in some cultures, teacher immediacy always had a positive student affect. In 1996, Moore, Masterson, Christophel, and Shea conducted a study investigating teacher immediacy and student ratings of instruction. As expected, students rated instructors more positively as the frequency of the instructor's immediacy behaviors increased. In 1997, Neuliep conducted a study comparing teacher immediacy in American and Japanese college classrooms. Findings again supported a positive relationship between immediacy and student-teacher relationships.

In 1998, Mottet and Richmond, in line with the Robinson and Richmond (1995) study which questioned the validity of the verbal immediacy measure, suggested that "a 'verbal immediacy' approach to the study of communication is of minimal utility" (p. 39). Mottet and Richmond's studies indicated "verbal strategies rather

than actual scripted, text-based messages that people employ to approach or avoid relationship formation. While some aspects of immediacy may be recognized by clinical experts in people's verbal communication, there does not appear to be any substantial volitional use of such communication" (p. 39) and that studying approach/avoidance verbal strategies would be more insightful. Another study that same year ventured into virtually untouched territory—verbal and nonverbal immediacy behaviors in distance delivery (Freitas, Myers, & Avtgis, 1998). Participants reported little difference in instructor verbal immediacy in distance delivery classrooms compared to conventional classrooms, but did report a difference in nonverbal immediacy. Christensen and Menzel (1998) again examined and supported a positive relationship between teacher verbal and nonverbal immediacy and state motivation, perceived cognitive, affective, and behavioral learning. Unlike previous research, Christensen and Menzel's findings

showed verbal immediacy accounted for higher perceived learning and motivation than nonverbal immediacy.

Recently, Menzel and Carrell (1999) for the first time examined the impact of gender and immediacy on student willingness to talk in the classroom. They found verbal immediacy affected student willingness to talk and perceived learning. Menzel and Carrell found that gender of student and instructor did not appear to affect student willingness to talk, but did affect perceived learning. Students reported learning more from a same-sex instructor.

Teacher immediacy appears to predict teacher effectiveness as suggested by previous and current research. Due to so many positive findings, it seems natural to assume that teacher immediacy must also affect student learning in the classroom. Or does it? Is it likely that students learn more from teachers displaying behaviors associated with immediacy? Or is teacher immediacy confined to student liking of the

teacher or classroom environment, which may serve to promote student enjoyment of learning or increase student retention but not necessarily cause increased learning? By examining the current measurements used to assess perceived cognitive learning in relation with teacher immediacy, and comparing the results to an accurate representation of actual student learning, we might discover the effects of teacher immediacy on actual cognitive learning.

Review of Cognitive Learning Literature

The ability to accurately measure cognitive learning continues to be the aspiration of many researchers, educators, and administrators. Sprague (1993) describes this desire to know when students learn as being extraordinary:

> Every teacher knows the euphoric feeling I'm talking about: walking down the hall after a class feeling that today you got it right, for once you earned your pay, that somehow you put

> it all together at the right moment in a way that surprised not only your students but yourself. On those rare days you know that a kind of learning occurred that could not have happened without good teaching—and you even suspect that it could not have happened quite so well with any teacher but you. (p.349)

In an effort to identify and quantify when teaching works, Sprague examined stories she collected from distinguished teachers describing when learning took place. In Instructional Communication studies cognitive learning has been presumed either through various measures of recall, written exams, or by student perceptions.

Andersen's study (1979) examined cognitive learning in relation to immediacy using student scores on a 50-item multiple choice test. She found that immediacy did not predict test scores. Andersen, Norton, and Nussbaum (1981) conducted three separate studies to examine the

relationship between immediacy and affective and cognitive learning. Cognitive learning was again measured by the scores on a 50-item multiple-choice test, and again found no relation between cognitive learning and immediacy.

In 1987, Richmond, Gorham, and McCroskey devised a scale to obtain student perceptions of cognitive learning, asserting that in the absence of sound measurements it was reasonable to expect that students could accurately estimate how much they learned in class. They compared perceived cognitive learning with nonverbal immediacy. Unlike earlier findings, they reported that the results indicated a positive relationship between immediacy behaviors and cognitive learning, although not all immediacy behaviors seemed equally affective. The two-item 10-point scale created for their research often replaced exams and other methods of assessing actual student learning in

subsequent studies, and because of its impact should be examined here more closely.

Richmond, Gorham, and McCroskey admitted that the measurement they used was subjective. In their article (1987, p.581) they stated, "Although a student may generate positive or negative affect for a course for many reasons, one very important basis for a student's affective response is whether or not the student perceives he or she 'got anything out of the course.'" Based on this premise, they purported to measure cognitive learning by asking students two questions: (1) How much they learned in the class on a scale of 0 to 9 (0 meaning they learned nothing and 9 meaning they learned more than in any other class they've had). (2) How much they think they could have learned in the class had they had the ideal instructor. A "learning loss" was determined by subtracting the score on the first question from the second in order to remove the bias

that might result if the class were one the student disliked but was required to take.

Although the research questions posed by Richmond, et al. imply that "student perceptions of . . . nonverbal behaviors of teachers [are] associated with cognitive learning of students" (1987, p. 580) rather than perceived cognitive learning, they provide a disclaimer in the final section entitled "Summary and Implications":

> If we assume that the students in the present studies were in a position to give a reasonably accurate report of their cognitive learning and were motivated to respond truthfully to our request for that information, we may conclude from this research that immediacy behaviors are substantially associated with cognitive learning. (p. 586)

By their own earlier explanation, what they are actually measuring is student affect (the student's positive or negative attitude toward the teacher or subject) by collecting student perceptions of how much he or she "got out of the course." But with the absence any method for testing the validity of measuring cognitive learning, it seems the findings should only suggest a connection between student perceptions and teacher immediacy. Richmond et al. seem careless when claiming, "At this point, however, we can be reasonably assured that a teacher who increases immediacy with students is likely to generate more student learning" (p. 588). This may have led to the misapplication of Richmond's et al. "cognitive learning" measurement in numerous studies and its correlation with cognitive learning (which implies actual learning).

In 1988, Kelley and Gorham did a study in which they examined cognitive learning and immediacy. The Kelley and Gorham study was not conducted in classrooms

as many immediacy studies have been, but in a controlled environment using methods of recall. This was a sound attempt to measure cognitive learning and compare it to immediacy behaviors such as eye contact and posture. Cognitive learning was defined as short-term recall and was tested by having participants read and recall four groups of six items in each of four conditions. A relationship between immediacy and cognitive learning at the short-term recall level was supported. Physical immediacy and eye contact improved scores of recall.

In 1990, Gorham and Christophel explored the possibility that humor, by enhancing the teacher-student relationship, might enhance student learning. The Richmond et al. two-item scale was used to report "learning" as opposed to perceived learning. Results showed a positive relationship between humor and perceived learning. In the study, humor was reported as effecting the "learning outcomes" which could be misconstrued as cognitive learning. In that same year

Christophel studied the relationships among teacher immediacy behaviors, student motivation, and learning. Again learning was measured using the Richmond et al. two-item scale, while also measuring affective learning, which is a perception-based construct. In the discussion of the results, Christophel often did not distinguish between the two and instead linked perceived cognitive and affective learning together as "learning," which again could be misconstrued as actual learning.

Also in 1990, Gorham and Zakahi compared teacher and student perceptions of immediacy and learning, in reference to a teacher's ability to monitor the process and outcomes. Again perceived cognitive learning was measured with the two-item scale and reported as "learning." The misuse of the word learning is a failure to distinguish between actual and perceived learning. In their hypothesis they used the phrase "student learning" to describe their purpose regarding learning, while defining it as "perceptions of cognitive

and affective learning outcomes" (p. 357) in the research question. The word "learning" implies actual, while "perceived" accurately signifies student perceptions. Perceived learning is the only valid claim one can make if one uses the two-item 10-point scale.

As highlighted, the two-item scale developed by Richmond et al. cannot be considered a valid measure of actual student learning without appropriate testing. In light of current assessment research, it is possible to begin examining the validity of this measurement with regard to the predictability of cognitive learning. By reviewing the recent literature on accurate assessment criteria, I can provide guidelines to determine actual cognitive learning and then compare the results to the two-item scale of perceived cognitive learning.

Guidelines for Assessing Actual Learning

In 1994, Anderson and Sosniak (eds.) described Bloom's taxonomy of the cognitive domain as:

> Arguably, one of the most influential educational monographs of the past half century. . . nearly forty years after its publication in 1956 the volume remains a standard reference for discussions of testing and evaluation. . . a search of the most recent *Social Science Citation Index* (1992) revealed more than 150 citations to the *Handbook*. . . few education publications have enjoyed such overwhelming recognition for so long. (p. vii)

Instructional Communication researchers are no exception. In almost every study done regarding student learning, Bloom's conceptualization of learning was used. It described three domains: affective learning (characterized as the student's positive or negative attitude toward the teacher or subject); behavioral learning (described as the development of psychomotor skills or observable

behavior change because of learning); and cognitive learning (refers to retention and comprehension of knowledge). However, how do we know if and when student learning as defined by Bloom takes place in the classroom? Past Communication research recognized the difficulty in identifying student learning, and has opted repeatedly to test student perceptions, hoping and often suggesting, that student perceptions of learning match actual learning.

In the last twenty to thirty years educational assessment has undergone a shift in paradigms. Due in part to this paradigm shift, educators have developed more holistic methods of measuring student learning. By first examining the shift in paradigms driving learning assessment, one can determine what guidelines should be followed in order to appropriately measure learning and begin

examining the relationship between perceived student learning and actual learning.

Bloom, Hastings, and Madaus (1971) accurately described the historical paradigm of learning assessment:

> Education has for centuries been thought of as a pyramid, with all or most of the younger age groups attending school at the bottom and very few ever reaching the apex. Examinations of some kind have been used to make the decision about who is to be permitted to go to the next level. As part of the process, the results of examinations and teacher judgments have been turned into a grading system in which all students are classified annually or more frequently. (p. 7)

In the 70's and 80's only a small percentage of students went on to universities (Stiggins, 1997) and yet the grade point average and ranking

system in place was intentionally designed to benefit that small group. By this time, many educators had already begun to question the system used to drive testing and evaluation. Soon the learning assessment paradigm would shift from a sorting mechanism tool, to a tool used to improve and support student learning (Phye, 1997).

Reineke (1998) asserts that the purpose of assessment is to ". . . promote students' sense of personal competence and confidence. Effective assessment is essential for attaining both goals" (p. 5). In other words, assessment could be seen as a communication tool that has changed from being a mere transmission of information, to being a transaction wherein each person is "both a sender and a receiver simultaneously" (Rothwell, 1998, p. 6). Assessment was traditionally utilized to communicate one-way to educators, administrators, etc. whether or not a student was "college

material," and now it is a method of communicate **between** students and educators in order to increase understanding, knowledge, and learning.

Due to the shift in paradigms, Stiggins (1997) asserted that using the appropriate assessment involves "bring[ing] students into the assessment process. . . demystifying the meaning of success in the classroom. . . [and] acknowledge[ing] that students use assessment results to make the decisions that ultimately will determine if school does or does not work for them" (p. 19). Stiggins also contends that "no single method can serve all of our assessment needs at all. . . levels" (p. 88). Choosing the appropriate assessment involves setting clear achievement targets and choosing the method that "provides the most direct view of student performance—that permits the strongest inferences from the assessment results to the actual status of the achievement target" (Stiggins,

1997, p. 88). For the purpose of this study, the following guidelines based upon recent assessment literature will be used to determine the appropriateness of the assessment used to measure cognitive learning: (1) Communicating clear achievement targets; (2) Selecting the appropriate assessment for demonstrating student achievement of targets; and (3) Clearly communicating the information students need to understand their achievements.

1) Communicating clear achievement targets. In order to communicate targets, targets must be predetermined. Often tests are created following a period of classroom instruction. The benefit of predetermining targets is two-fold. First, student know what knowledge and competency is expected in order to achieve learning; and secondly, the student and the instructor use the targets for classroom content in order to successfully present the necessary information.

2) Selecting the appropriate assessment for demonstrating student achievement of targets. Stiggins (1997) established guidelines for picking appropriate assessments based on the targets. He grouped all possible targets into five categories: knowledge mastery, reasoning proficiency, skills, ability to create products, and dispositions. Within the descriptions of each he provides guidelines for picking selected response, essay, performance assessment, and personal communication.
3) Clearly communicating the information students need to understand their achievements. Recognizing that motivation should be a primary focus of assessment, assessments must provide enough information to explain student proficiency.

Establishing the guidelines for assessing actual student learning enables researchers to compare different assessments while still measuring actual student learning. As long as the assessment

meets the following criteria: 1. determines clear achievement targets, 2.selects appropriate assessments, and 3.provides communication to the student and instructor regarding student achievement, then actual learning can be measured and compared to other communication constructs using various assessments. Whether it is performance assessment for presentations, problem-solving for mathematics, or essays for literature, actual student learning can be measured accurately in various ways appropriate to the material. Communication researchers are no longer limited to "unknown" methods of measuring student learning.

Research Questions

The present study first examines the relationship between student perceived cognitive learning and teacher immediacy as a replication of prior studies.

H1: Student perceptions of teacher immediacy behaviors are positively associated with perceived cognitive learning by students.

If student perceptions of teacher immediacy are related to student perceptions of actual learning, then we can add a new component to the research by exploring the relationship between perceived and actual student learning. By clarifying what makes assessment representative of actual student learning, this study seeks to determine the relationship between actual and perceived student learning, and actual student learning and teacher immediacy. The research questions explored in this study are as follows:

RQ_1 To what extent are student perceptions of their learning associated with actual cognitive learning?

RQ_2 To what extent is actual cognitive learning associated with student perceptions of teacher nonverbal immediacy behaviors?

Chapter Two: Method

Procedures

The participants in this study were 59 undergraduate students: 15 males, 34 females, and 10 of unknown gender. Participants were enrolled in basic communication courses. Communication classes were chosen for two reasons: 1) as discussed below, the assessment used in these classes was more reflective of actual cognitive learning than of perceived learning, and 2) these classrooms were accessible to me as the researcher.

Participation in the study was optional. Students were asked to provide their name in order to allow the research to link immediacy scores with assessments of student presentation scores. Students were provided with written documentation assuring confidentiality. When data were entered into the computer for analysis, participants and instructors have assigned a number to prevent possible identification of student and/or instructors while working with the data.

Immediacy and Perceived Cognitive Learning data were collected during the last two weeks of the semester prior to final grades. As previous research indicates, students need time to allow them to accurately report the use of immediacy behaviors by instructors.

The basic communication classes sampled in this study focused primarily on knowledge and competency regarding informative speaking and group decision making. The sections were taught by graduate teaching assistants. Although data were collected from sections of seven different teaching assistants, data were complete only from two, a result of teaching assistants' incomplete records of the scores of the diagnostic presentation of their students.

The graduate teaching assistants were responsible for all instruction and grading. The course is highly structured in order to provide consistency across the class sections. The testing instrument for presentation abilities is also a highly structured measurement.

Measures

Nonverbal Immediacy

The instrument used in this study to measure teacher nonverbal immediacy is the instrument used consistently in previous research, except that 4 items identified as not contributing to the reliability or validity of the instrument when used in college classrooms were removed after the data was collected using the 14-item scale. The items removed dealt with standing and sitting. Past research indicated an alpha reliability of .83 for this 10-item instrument (Thomas, Richmond, & McCroskey, 1994). In this study the alpha reliability of the 10-item instrument was .77.

Participants were asked to complete the 14-item Likert-type Nonverbal Immediacy Behaviors (NIB) measure. Participants were instructed to rate how often, if ever, the teacher in their current class exhibited fourteen immediacy behaviors with 0 being never and 4 being very often (see Appendix A). Items 3, 6, and 10 were reverse

coded as the behaviors indexed are low rather than high immediacy behaviors.

Perceived Cognitive Learning

The same instrument used to assess cognitive learning in previous research is used in this study again for comparability. Participants responded to 10-point scales (Richmond, Gorham, & McCroskey 1987), on a scale of 0-9(0=you learned nothing and 9=you learned more than in any other class you've had). The two items were: 1. How much did you learn in the class and 2. How much do you think you could have learned in the class had you had the ideal instructor (see Appendix B)?

A learning loss is figured by subtracting the score on the first scale from the score on the second. Richmond, Gorham, & McCroskey (1987) used this learning loss to remove the possible bias with regard to estimated learning that could stem from being forced to take a class in a disliked subject. The correlation between the two scores in the Richmond, et al. study was

.94. In this study the correlation between the two scores was .64, and although a lower score the correlation was still significant.

Actual Cognitive Learning

Actual cognitive learning (knowledge and competence) was measured by subtracting each students' total speaking competency score on the diagnostic presentation from their score on the fifth presentation. The diagnostic presentation takes place the first week of the course before any formal instruction and practice has taken place. The fifth graded presentation takes place within the last six weeks of the course. The Public Speaking Competencies Assessment (see Appendix C) instrument consists of eight public speaking competencies with four that relate to preparation and four that relate to delivery.

The Public Speaking Competency instrument is based upon "The Competent Speaker Speech Evaluation Form" which is an instrument developed by the Speech

Communication Association (SCA) Committee (Morreale, Moore, Taylor, Surges-Tatum, & Hulbert-Johnson, eds., 1993). The instrument was standardized and tested for use in assessing public speaking competencies at the higher education level. The instrument was tested for inter-rater reliability with a variety of raters and produced high and moderately high coefficients. An Ebel's coefficient of .92 was produced by speech communication professionals, while a Cronbach coefficient of .84 was generated by community college speech instructors. Lastly, a group of graduate teaching assistants produced a Cronbach's alpha of .76. The instrument was also tested for possible cultural bias and no significant differences were found in scores by ethnic group (Asian, Black, Hispanic, or White) or by gender.

Using the guidelines outlined previously that are based upon recent assessment literature and specified using Stiggins' (1997) text, actual cognitive learning

will be assessed. Again the guidelines are: (1) Communicating clear achievement targets; (2) Selecting the appropriate assessment for demonstrating student achievement of targets; and (3) Clearly communicating the information students need to understand their achievements.

Chapter Three: Results and Implications

Data Analysis

One hypothesis and two research questions were posed for this study, and four data analyses were performed. Pearson correlations were done between learning and learning loss scores, perceived learning and immediacy behaviors, perceived learning and actual learning, and actual learning and immediacy behaviors.

Results

H1: Student perceptions of teacher immediacy behaviors are positively associated with perceived cognitive learning by students.

To determine the relationship between immediacy and perceived cognitive learning a Pearson correlation was computed. First, the Pearson correlation between perceived learning and perceived learning with an ideal instructor was found to be .64, $p < .01$, which established a strong relationship between the two. Second, the Pearson correlation between immediacy and perceived learning was .42, $p < .01$, indicating a

positive relationship, as predicted in hypothesis one. Results of this study demonstrated a positive relationship as in previous studies.

RQ_1 To what extent are student perceptions of their learning associated with actual cognitive learning?

In order to determine the relationship, if any, between perceived and actual student learning, a Pearson correlation was done. The correlation was .108 (p=), indicating no relationship between perceived and actual learning.

RQ_2 To what extent is actual cognitive learning associated with student perceptions of teacher nonverbal immediacy behaviors?

To determine if there was a relationship between perceived cognitive learning and teacher nonverbal immediacy as suggested, and even stated in previous research, a final Pearson correlation was done. The correlation was .089 (p=), indicating no relationship

between actual cognitive learning and teacher nonverbal immediacy.

Implications

The purpose of this study was to determine what relationship, if any, existed between actual student learning and teacher nonverbal immediacy behaviors. No relationship was found, even though this study replicated prior findings of a relationship between nonverbal immediacy and perceived learning. Based upon these findings, how much a student perceives they "got out of the course" appears to be linked to student affective learning (positive or negative attitude toward the course instructor or content) but not actual cognitive learning. Although student perceptions of teacher nonverbal immediacy might be important for student retention, teacher liking, or creating a positive classroom environment, it is not connected to actual student learning.

The Richmond, Gorham, and McCroskey (1987) perceived cognitive learning instrument has often been reported by Instructional Communication researchers as reporting actual student learning, without having studied the relationship between perceived and actual. The results of this study suggest no relationship and supports the need for researchers using the Richmond, et al. instrument to report exactly what they are measuring-student perceptions.

In my discussions with other people about this study, many suspected that you could learn from "stern" or "unfriendly" teachers. Many people even recalled experiences with "tough" and "unfriendly" teachers that they felt they learned more from than some of the teachers they liked. An interesting future study would be to identify various instructors that were considered "hard" teachers and measure student perceptions of teacher nonverbal immediacy, then compare immediacy to actual learning. The findings might encourage

researchers to begin a new search for links between communication and learning.

In light of the new assessment research, some of which is covered in this study, another interesting research project could be examining assessment as a communication tool. What if an instructor's ability to successfully communicate, using assessment to clarify clear targets for learning and provide communication of student achievement throughout the term, was related to effective teaching? Researchers would be encouraged to contribute prescriptions of effective communication techniques for utilizing assessments. After all, isn't our favorite teacher the one we most respect for pushing our abilities to higher levels? Does it matter if they smile and give eye contact, or is it more important that effective communication of expectations, student progress, and final achievement serve as drivers to higher student learning?

The limitations of this study are two-fold. First, having data from only 59 participants taught by two instructors limited the generalizability of the results. Second, although inter-rater reliability was done when the Eight Competencies for Public Speaking instrument was created, inter-rater reliability ratings of the graduate teaching assistants used in this study might have provided further insight.

Finally, I would recommend the dissertation of B. Scott Titsworth, Ph.D. (1999, University of Nebraska) as an excellent model for combining quantitative and qualitative methodologies in order to show a more encompassing view of effective teaching. Instructional Communication should look to qualitative methods as a way to observe effective teaching behaviors. Looking at the frog in the pond, as opposed to dissecting it and looking at the parts, makes more sense when you are studying teacher behaviors and their relationship to increasing student learning.

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Appendices

Appendix A

Nonverbal Immediacy Behaviors Measurement

Instructions: Below is a series of descriptions of things some teachers have been observed doing in some classes. Please respond to the items *in terms of the class you are taking now.* For each item, please indicate on a scale of 0-4 how often your teacher in that class engages in those behaviors. Use this scale: never = 0, rarely = 1, occasionally = 2, often = 3, and very often = 4.

1. Sits behind desk while teaching
   never 0 1 2 3 4 very often

2. Gestures while talking to the class.
   never 0 1 2 3 4 very often

3. Uses monotone/dull voice when talking to the class.
   never 0 1 2 3 4 very often

4. Looks at the class while talking.
   never 0 1 2 3 4 very often

5. Smiles at the class while talking.
   never 0 1 2 3 4 very often

6. Has a very tense body position while talking to the class.
   never 0 1 2 3 4 very often

7. Touches students in the class.
   never 0 1 2 3 4 very often

8. Moves around the classroom while teaching.
   never 0 1 2 3 4 very often

9. Sits on a desk or in a chair while teaching.
   never 0 1 2 3 4 very often

10. Looks at board or notes while talking to the class.
    never 0 1 2 3 4 very often

11. Stands behind podium or desk while teaching.
    never 0 1 2 3 4 very often

12. Has very relaxed body position while talking to the class.
    never 0 1 2 3 4 very often

13. Smiles at individual students in the class.
    never 0 1 2 3 4 very often

14. Uses a variety of vocal expressions when talking to the class.
    never 0 1 2 3 4 very often

Appendix B

Perceived Cognitive Learning Measurement Scale

Instructions: Please respond to the items *in terms of the class you are taking now.* For each item, please indicate on a scale of 0-9 how you feel you learned in class. Use this scale: learned nothing = 0, and learned more than in any other class = 9.

1. On a scale of 0-9, how much did you learn in the class?

learned nothing 0 1 2 3 4 5 6 7 8 9 learned more than in any other class

2. On a scale of 0-9, how much do you think you could have learned in the class had you had the ideal instructor?

learn nothing 0 1 2 3 4 5 6 7 8 9 learn more than in any other class

Appendix C

Presentation Assessment: Eight Competencies

Unsatisfactory		Satisfactory		Excellent
1	2	3	4	5

Competency One: Assignment specifics

Evidence of preparation _____

Evidence of practice _____

Within the specified time _____

Meets assignment requirements _____

Competency Two: Introduction

Attention gaining material _____

Thesis/specific purpose _____

Relevance material _____

Preview of points _____

Transition into body _____

Competency Three: Supporting material/ body of presentation

Good information (content) _____

Main points clear and elaborated _____

Relevance of evidence _____

Smoothness in introduction of evidence _____

Competency Four: Observable organizational pattern

Clear organization structure _____

Internal transitions _____

Transition from body into conclusion _____

Summary of points _____

Definitive final statement _____

Competency Five: Appropriate language

Bias-free language _____

Formal level (no slang or specialized words) _____

No reflexivity (does not draw attention to speaker or occasion) _____

No verbal fillers ("You know..." "like...") _____

Competency Six: Vocal presentation

Rate _____

Expressiveness/pitch _____

Intensity/volume _____

Competency Seven: Pronunciation

Grammar _____

Articulation (clarity; not reading rhythm) _____

Delivery (not halting, choppy...note use)_____

No vocalic fillers ("uh"..."err"..."um")_____

No reading!!! _____

Competency Eight: Nonverbal support of presentation

Eye contact with audience _____

Good use of note cards (not held)_____

No complete sentences on cards (except direct quotations)_____

Lectern use _____

Appearance (no hats, sweats, etc.)_____

Appropriate use of gesture and facial expression_____